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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/596,851

06/19/2000

Gary M. Diamond

99-109

4220

22905

7590

05/21/2002

SYMYX TECHNOLOGIES INC
LEGAL DEPARTMENT
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EXAMINER

BAKER, MAURIE GARCIA

ART UNIT

PAPER NUMBER

1627

DATE MAILED: 05/21/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/596,851

Applicant(s)

Diamond et al

Examiner
Maurie Garcia Baker, Ph. D.

Art Unit
1627



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Feb 28, 2002

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-69 is/are pending in the application

4a) Of the above, claim(s) 1-15, 20-23, 27, 29, 34-36, 39, 40, 44, 46-49, and 51-69 is/are withdrawn from consideration

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 16-19, 24-26, 28, 30-33, 37, 38, 41-43, 45, and 50 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

4) ☐ Interview Summary (PTO-413) Paper No(s). _____

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3

6) ☐ Other:

DETAILED ACTION

1. The Response filed February 28, 2002 (Paper No.11) is acknowledged. Claims 16, 25-28 and 41 were amended and no claims were cancelled or added. Therefore, claims 1-69 are pending.

Election/Restriction

2. Applicant's election and traversal was addressed in the previous action (Paper No. 8). The species election set forth in that action and responded to by applicant in the Response filed February 28, 2002 is addressed below.

3. Claims 1-15, 39 and 59-69 remain withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to non-elected inventions. Election was made **without** traverse in Paper No. 7 with respect to these groups.

4. Applicant elects all species except one without traverse. With respect to the one traversal (Response, page 4, middle), the species represent different methods. The methods are different because they use different steps, require different reagents and will produce different products and/or results. They therefore have different issues regarding patentability and enablement and represent patentably distinct subject matter. Although the species may not be mutually exclusive, they are *separately claimed*. Thus, the

species election is maintained until such time as a generic claim is determined to be allowable.

5. Also see MPEP § 803.02 with respect to species elections (cited in part):

On the other hand, should no prior art be found that anticipates or renders obvious the elected species, the search of the Markush-type claim will be extended. If prior art is then found that anticipates or renders obvious the Markush-type claim with respect to a nonelected species, the Markush-type claim shall be rejected and claims to the nonelected species held withdrawn from further consideration. The prior art search, however, will not be extended unnecessarily to cover all nonelected species. Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection, as by amending the Markush-type claim to exclude the species anticipated or rendered obvious by the prior art, the amended Markush-type claim will be reexamined. The prior art search will be extended to the extent necessary to determine patentability of the Markush-type claim. In the event prior art is found during the reexamination that anticipates or renders obvious the amended Markush-type claim, the claim will be rejected and the action made final. Amendments submitted after the final rejection further restricting the scope of the claim may be denied entry.

6. Claims 20-23, 27, 29, 34-36, 40, 44, 46-49 and 51-58 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to non-elected species.

7. Therefore, claims 16-19, 24-26, 28, 30-33, 37, 38, 41-43, 45 and 50 are examined on the merits in this action.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
9. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites "commercial quantities". This is deemed to be indefinite because it is a relative term which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. That is, how much is a "commercial quantity"?

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 16-19, 24-26, 28, 30-33, 37, 38, 41-43, 45 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Tol et al (WO 97/42232 - on PTO-1449) in view of Willson (WO 97/32208 - on PTO-1449).

Van Tol et al teach a method for polymerization of alpha olefins using various catalysts (see Abstract). The method is first carried out with the monomer of octene (reading on the limitations of the instant 37, 38 and 41), see page 28, beginning on line 9. The method is then carried out with octene and other monomers, see Example II beginning on page 28, line 26. Octene and ethylene are polymerized in Example III of the reference (page 31). Since Van Tol et al starts off by only using octene and then goes on to use other monomers in their polymerization process, this is deemed to read on the limitation where the “polymerization performance of the potential catalysts is determined for at least a first monomer as a predictor for the polymerization performance of the potential catalysts for at least a second monomer” of claim 16 and also the limitations of claim 17. Note that Van Tol et al characterize the octane polymer by determining molecular weight and unsaturation (NMR) {Example I} and others by amount of polymer produced {Example II}. The other polymers made by incorporation of other monomers were also characterized. This reads on the limitations in instant claims 19, 30, 45 and 50.

As the polymers of the reference are clearly for commercial use (see pages 1-4 of the reference), this reads on the limitations of claim 18. The reactions were quenched to stop the polymerization after a two hour period (page 28, lines 16-

18), reading on the limitations of claim 31 and 32. Van Tol et al teach a variety of catalyst systems, see page 33, Table 1 of the reference.

Van Tol et al lack the specifics of testing an “array of at least 8 potential polymerization catalysts” by “concurrent reaction” (claim 16) and the limitations of claims 24-26, 28, 33, 42 and 43 concerning testing arrays, array format, number of elements in the array and time per assay. However, the findings of *In re Aller* should be considered: “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Moreover, various formats for preparing and testing collections of catalysts were well known in the art at the time of filing. Willson teaches a multicell holder for assembling and testing large numbers of catalysts as cells, spots or pellets (see Abstract; Figure 1 and page 2, lines 14-29). In preparing Willson’s arrays of catalysts, “the catalyst candidate precursors can be deposited...by any convenient technique, preferably by pipette or absorbing stamp...In preferred embodiments, the deposition process will be under robotic control, similar to that used to load multicell plates in biochemical assays” (page 4, top). Willson also teaches that robotic techniques can be employed. The reference teaches that their set-up permits “the scanning of dozens of catalysts in a single set-up, often in less time than required for a single catalysts to be evaluated by conventional methods” (page 2, lines 1-11). Willson also teaches

that “[o]nce the catalysts are in place on the support, any suitable technique known to the art can be used to stabilize, and/or activate the particular catalysts chosen” (page 4, bottom). The reference teaches that the invention “has utility with any reaction which can be enhanced by the presence of a catalyst ... including ...polymerization reactions...” (page 5, lines 5-11).

Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art to use the catalysts and methodology of Van Tol et al in a combinatorial type setting (assay) to make and test arrays of catalysts as taught by Willson for polymerization performance based on the results of initial monomer testing (as set forth by Van Tol et al). Willson demonstrates that physical and spatial manipulation of catalyst arrays was well known in the art at the time of filing. The techniques for these manipulations result in a more automated work environment. One of ordinary skill would be motivated to use various automated manipulation techniques known to the combinatorial chemistry art (as evidenced by the teachings of Willson) based on their known advantages. The advantages are specifically taught, for example, in Willson, that is “sharply reduce labor costs per catalyst screened”.


Status of Claims/ Conclusion

13. No claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurie Garcia Baker, Ph.D. whose telephone number is (703) 308-0065. The examiner can normally be reached on Monday-Thursday and alternate Fridays from 9:00 to 6:30.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jyothsna Venkat, can be reached on (703) 308-2439. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Maurie Garcia Baker, Ph.D.
May 17, 2002


MAURIE E. GARCIA/PH.D
PATENT EXAMINER